

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



Biotechnology Notes

Volume 7 • Number 9

U.S. Department of Agriculture

September 1994

Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

ABRAC GEARING UP AGAIN

On August 9, 1994 the Secretary of Agriculture appointed the 15 members of USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC). Their appointments are for two years. (The current members are listed below.)

The purpose of the Committee is to advise the Department, through the Assistant Secretary for Science and Education, with respect to policies, programs, operations and activities associated with the conduct of agricultural biotechnology research. Major accomplishments of the Committee over the past four years have included the review of individual research proposals involving questions of biosafety, the development of guidelines and performance standards for research with genetically modified organisms, and, in response to a specific request, the development of recommendations for the food safety evaluation of transgenic livestock.

In the coming months, an important issue that will be addressed by the new Committee will be to complete the development of performance standards for safely conducting research with genetically modified fish and shellfish. Other important issues may include: management of resistance to biopesticides in crop plants; production of pharmaceuticals in plants and animals; use and effects of synthetic sequences in organisms of agricultural importance; risk management and risk communications; and public attitudes, perceptions, and acceptance of genetically engineered products.

The members of the Committee are:

Dr. Susan Harlander, CHAIR
Director, Research and Development
Land O'Lakes

Dr. Anne R. Kapuscinski
Department of Fisheries and Wildlife
University of Minnesota

Dr. Pamela G. Marrone
Noro Nordisk Entotech, Inc.

Dr. Deborah K. Letourneau
Board of Environmental Studies
University of California, Santa Cruz

Dr. Rudy Wodzinski
Department of Molecular Biology and
Microbiology
University of Central Florida

Dr. Roy Fuchs
Monsanto Agricultural Company

Dr. James Tiedje
NSF Center for Microbial Ecology
Michigan State University

Dr. Paul Thompson
Center for Biotechnology Policy and Ethics
Texas A&M University

Dr. Walter A. Hill, VICE CHAIR
School of Agri. & Home Economics
Tuskegee University

Dr. James Lauderdale
The Upjohn Company

Dr. Ronald R. Sederoff
Department of Forestry
North Carolina State University

Dr. Stanley Pierce
Rivkin, Radler, Bayh, Hart, & Kremer

Dr. Fernando Osorio
Department of Veterinary and
Biomedical Sciences
University of Nebraska

Dr. H. Alan Wood
Boyce Thompson Inst. for Plant
Research

Dr. Walter Reid
World Resources Institute

The next meeting of the Committee is scheduled for November 17-18, 1994 in Monterey, California. It will be held immediately following "The Third International Symposium on the Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms." (See Upcoming Meetings below for details.) For additional information, contact the USDA's Office of Agricultural Biotechnology. Tel: 703-235-4419. FAX 701-235-4429.

MINI-SYMPOSIUM BEFORE MONTEREY MEETING

A one day mini-symposium has been scheduled for Saturday, Nov. 12, 1994 prior to the 3rd International Symposium on biosafety results of field testing to be held Nov. 13-16 in Monterey, CA. (See Upcoming Meetings below). The purpose of the meeting will be an interactive discussion forum focused on issues affecting the full adoption of agricultural biotechnology products in the global arena. The symposium is co-hosted by the University of California, The U.S. Agency for International Development and the USDA. Contact: Judith Chambers, USAID, Office of Agriculture. Tel: 703 875 4219. FAX: 703 875 5344.

USDA SUPPORTS BIODIVERSITY TREATY RESOLUTION

USDA and several members of the private sector are urging the Senate to pass Senate Resolution 239--Ratification of the Convention on Biological Diversity by August 30, 1994. Ratification of SR239 would mean that the U.S. would become a member of the Convention and be able to participate in the first meeting of the Conference of the Parties of the Biodiversity Convention scheduled for November 30, 1994 in Nassau, the Bahamas.

Having access to foreign germplasm is of great importance to U.S. agriculture because most of the important agricultural crops are introduced species. This means that the wildtype germplasm resources for corn, wheat, soybeans, potatoes, cotton and most fruits and vegetables reside in other parts of the world. Until the Convention on Biological Diversity was signed by 80 nations in 1993, there was unregulated access to these resources, but the Convention has developed provisions that govern international exchanges, and especially the regulation of products produced using germplasm from foreign sources. U.S. interests can only be protected in matters of transfer, financing and safety if the U.S. is a full fledged partner.

2ND CHANCE TO LEARN ABOUT TREE BIOTECH

"The Second International Symposium on Applications of Biotechnology to Tree Culture, Protection and Utilization" will be held in Bloomington MN this Oct. (See Upcoming Meetings for details.) The meeting will be held jointly with the Technical Association of the Paper and Pulp Industry R&D Biological Sciences Symposium and will include sessions on tissue culture, insect and disease resistance, molecular biology, stress physiology, commercialization, bioremediation, biopulping and biofilms.

Some of the featured speakers and their topics will be: John Carlson, of British Columbia, on genome organization in forest trees; Dave Ellis, University of Wisconsin, Madison, on the production of the anti-cancer drug--taxol; Jenny Aitken-Christie, New Zealand, on commercialization of conifer embryogenesis; Brian Ellis, British Columbia,

on customizing lignin through biotechnology; and Ming Tien, Pennsylvania State University, on enzyme mechanisms of lignin biodegradation. For additional information contact: Charles H. Michler. Tel: 715-362-1113. FAX: 715-362-1166.

A NEW SOCIETY FORMED

Dr. Daniel Fieselmann, APHIS, recently announced the formation of The Society for Regulatory Plant Protection. The membership of the Society includes Federal, state, and county workers as well as others interested in this multi-disciplinary field. The Society's mission is to increase the professionalism, communication, and unity of people in the regulatory plant protection community. The Society publishes a quarterly newsletter reporting past updates, book reviews, available publications, etc. (A sample copy of the newsletter is free on request.) The initial call for members has resulted in over 150 charter members. Annual dues are \$20.00. Anyone interested in joining should contact the Society at P.O. Box 1074, Gulfport, MS 39502-1074 or FAX 601-8686-7172.

A GENETIC TREE GROWS IN OREGON?

Yes! Five industries have joined together with the Biofuels Feedstock Development Program of DOE and Oregon State University to advance methods for genetically engineering trees for use in intensively managed tree plantations. The immediate focus of the Cooperative, called the TGERC (Tree Genetic Engineering Research Cooperative), will be on hybrid cottonwoods for use in pulp and paper. The industrial members are Alberta-Pacific, Boise-Cascade, James River, Potlatch, and Union Camp. The scientific emphasis during the initial five years will be on developing the two "enabling" technologies for genetic engineering: improving gene transfer systems and engineering sterility for gene containment. Contact Dr. Steve Strauss for more information. FAX: 503-737-1393. Email address: strauss@fsl.orst.edu.

APHIS RECEIVING SECONDARY CROPS APPLICATIONS

According to Arnold Foudin, APHIS, applications for field testing are beginning to come in for "secondary" crops. Foudin says that these crops usually require little processing except cooking and biotechnology is currently being used to engineer them so less pesticide will be required. These crops are primarily being researched by the public sector. The seven new requests include a cranberry (Univ. of Wisconsin) and an eggplant (Rutgers) with Bt genes, a virus resistant gladiolus (USDA), herbicide resistant lettuce (University of Florida), a male sterile broccoli (Barham Seeds) and several herbicide tolerant varieties--creeping bent grass (Rutgers), and 2 wheat strains (Monsanto and AgrEvo).

NEWS AROUND THE NATION (AND THE WORLD)

EUKARYOTICS FOR CLONING

A recent article in the *ATCC Newsletter*, "Fungi/yeast as Transformation Hosts for Production of Foreign Proteins," may be of interest to researchers interested in looking for new transformation host organisms that may be more suitable for the production of human pharmaceuticals. The authors, S.C. Jong, and J.M. Birmingham, present a number of "positive attributes that make yeast and filamentous fungi attractive transformation hosts". A list of 21 yeast species and 64 filamentous fungi are listed. The paper also includes a list of those organisms that are available from the American Type Culture Collection. The ATCC has a catalog that is available via print, diskette, CD-ROM and an Internet Gopher server.

You can connect through Internet to either of 2 host Gopher servers (the Internet catalog is the most-up-date) by typing the following: "gopher merlot.welch.jhu.edu" or "gopher atcc.nih.gov". An e-mail address is "gopher@atcc.nih.gov". For more information contact ATCC at: tel: 1-800-638-6597. FAX 301-816-4361.

TWO ARTICLES OF INTEREST IN AN ITALIAN JOURNAL

The March/April 1994 issue of *Agro-food-Industry Hi-Tech* contains 2 articles that may be of interest to those engineering agricultural plants. They are: "Field Trials of Transgenic Plants: An Overview" by P. Ahl Goy, E. Chasseray (p. 10-16); and J. Duesing and "Genetic Engineering of Crop Legumes and Cereals: Current Status and Recent Advances" by P. Christou (p. 17-27).

In the field trials article, the authors describe the analysis of information in a database of plant field trials that have been conducted world wide. The sponsoring agency for the database construction and maintenance is The Green Industry Biotechnology Platform (GIBiP). This organization is made up of 19 European companies that are "actively involved in agricultural and food business using biotechnology for the improvement of plant species." The paper "presents a number of data summaries and lists derived for queries of the database and discusses the methodology and problems involved in organizing such a database." The data include information for the number of field trial applications of transgenic plants from 1986-1992.

There are charts and listings for the numbers of approved field trials by country, the numbers and year of the 50 plant species crops involved up to 1992, a listing of organizations, companies, academic and others that have conducted trials, a table of the major gene constructs, and country distribution data showing the plant species and field trials for Europe and the US and Canada.

Christou reviews "the current status of biotechnology in important legumes and cereals and highlights important breakthroughs that provided the foundation for this success. Remaining problems and limitations that still hinder the wider applicability and adoption of technology developed for these crops" are addressed. The successes and methodologies used with the following leguminous plants are discussed--soybeans, common beans, peas, peanuts, mung beans, cowpeas, lentils, alfalfa, and clover. The status of genetic manipulation successes and possibilities are discussed for the following cereals--corn, rice, wheat, barley, oat and sugarcane.

If the reader is unable to locate these articles, copies can be obtained through the Biotechnology Information Center of USDA's National Agricultural Library. Tel: 301-504-5947. FAX: 301-504-7098.

NEW PUBLICATIONS

■ *ATCC Names of Industrial Fungi*. Published by the American Type Culture Collection (ATCC). The resource is priced at \$32.00 in the U.S. and \$42.00 for foreign shipments. For ordering information call ATCC Marketing at 301-881-2600 or FAX 301-816-4367.

■ *Public Attitudes to Genetic Engineering: Some European Perspectives* by L. Lemkow. The report was published by the European Foundation for the Improvement of Living and Working Conditions, Dublin. The report can be ordered from the Foundation at Loughlinstown House, Shankill, Co-Dublin, Ireland. Tel: 353-1-282-6888 FAX: 353-1-282-6456.

■ *Glossary of Biotechnology Terms* by M.H. Fleschar and K.R. Nill. TECHNOMIC Publishing Company, Inc. (Lancaster, PA). 1993. ISBN 0-87762-991-9. This new book of 155 pages includes 1,200 detailed definitions. It sells for \$49.00.

■ *Biosafety for Sustainable Agriculture: Sharing Biotechnology Regulatory Experience of the Western Hemisphere*. A. F. Krattiger and A. Rosemarin are the editors. It is published by the International Service for the Acquisition of Agri-biotech Applications (ISAAA) and The Stockholm Environment Institute (SEI) July 1994. The cost is \$20.00. Orders can be Faxed to 41-22-789-2538 or by credit card to the e-mail address: anatole@sc2a.unige.ch

UPCOMING MEETINGS

Sept. 11-14: "The Methodology of Plant Genetic Manipulation." Cork, Ireland.
Fax 353-21-274420.

Sept. 15-16: "Site Characterization: Innovative Technology." A conference sponsored by *Environment Week*. The conference will be held in Washington, D.C. For registration information, contact Sherry Sellner. Tel: 202-602-9710. FAX: 202-662-9719.

Sept. 18-22: "24th International Dairy Congress: 1994." The meeting will be held in Melbourne, Australia. Contact: The Congress Secretariat at 24th IDC, 1st Floor, 1601 Malvern Road, Glen Iris, 3146 Victoria, Australia. FAX: 61-3-8850017.

Sept. 20-23: "Scale-Up Strategies for Animal Cell Culture." Contact Penn State Biotechnology Institute, 519 Wartik Laboratory, University Park, PA 16802. Tel: 800-833-5533.

Sept 28-30: "Eighth Forum for Applied Biotechnology." The meeting will be held in Brugge, Belgium. Contact: Admin Centre, c/o GOM-West -Vlaanderen, Baron Ruzettelaan 33, 8310 Assebroek, Brugge, Belgium. Tel: 31-50-358131. FAX 31-50-363186.

Oct 2-6: "1994 Second International Symposium on the Applications of Biotechnology to Tree Culture, Protection, and Utilization." The conference will be held in Bloomington, MN. The registration address is: Edith Franson, Executive, Tree Biotechnology Symposium, Forestry Sciences Lab, PO Box 898, 5985 Highway K, Rhinelander, WI 54501 USA.

Oct. 2-6: "Bioenergy '94." The sixth national bioenergy conference. The conference will be hosted by The Western Regional Biomass Energy Program and will be held in Reno/Sparks, Nevada. Contact Consuelo Bennett at 510-284-3780.

Oct. 6-7: "Conference on Environmental Impact Prediction. Simulation for Environmental Decision Making." To be held at the North Carolina Supercomputing Center, 3021 Cornwallis Rd. P.O. Box 12889, Research Triangle Park, NC 27709. Tel. 704 366 2427. FAX 704 365 4344. Contact Ms. Christine Stahl.

Oct. 10-14: "Fungal Biotechnology Course." Loch Lomond, Scotland. Contact Ms. E. Clemens, Dept of Bioscience and Biotechnology, University of Strathclyde, 204 George St., Glasgow, G1 1XW, UK. Tel: 041-552-4400 ex. 2085. FAX: 041-533-1161

Oct. 17-18: "Creative Asset Based Financing for Biotechnology Manufacturing Facilities." This conference is sponsored by International Business Communications and will be held in San Francisco CA. For additional information contact IBC USA Conferences Inc. at 225 Turnpike Road, Southborough, MA 01772-1794. Tel: 508-481-6400. FAX 508-481-7911.

Oct. 17-20: "PCR Techniques & DNA Sequencing," and "Recombinant DNA Methodology & DNA Sequencing." These "On the Road Training Courses", to be held in Lake Tahoe, NV, are sponsored by The Center for Advanced Training in Cell and Molecular Biology of The Catholic University of America. For additional information contact The CATCMB, The Catholic University of America, 620 Michigan Ave., NE, Washington, D.C. 20064. Tel: 202-319-6161. FAX: 202-319-4469.

Nov. 1-2: "Environmental Risk Assessment: Politics and Policymaking." The conference sponsored by *Inside EPA* will be held in Arlington, VA. For registration information phone 800-242-9068 (in D.C. call 703-416-8505). FAX: 703-416-8543.

Nov. 13-16: "The Third International Symposium on The Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms." This symposium, being sponsored by a number of U.S and international organizations will be held in Monterey, California. For information contact Ms. Maryln Cordle at FAX: 703-235-4429. Registration contact is Ms. Pat Day at the UC Berkeley at FAX: 510-451-2317.

Biotechnology Notes is written by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Any comments or suggestions may be sent to USDA/OAB, Room 1001, Rosslyn Plaza-E, 14th and Independence Ave., S.W., Washington, DC 20250-2200. Telephone: 703-235-4419; Fax: 703-235-4429; e-mail: masner@csrs.esusda.gov. This news publication is also accessible on Internet via Gopher.

USDA prohibits discrimination in its programs on the basis of race, color, national origin, sex religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at 202-720-5881 (voice) or 202-720-7808 (TDD).

To file a complaint, write the Secretary of Agriculture, USDA, Washington, DC 20250 or call 202-720-7327 (voice) or 202-720-1127 (TDD). USDA is an equal employment opportunity employer.